

On page 14, line 10, following the word "are", please delete "thos" and insert therefor
--those--.

On page 19, line 24, following the phrase "H-TTTCCCTCTC-LysNH₂," please insert
--(SEQ ID NO: 3)--.

On page 21, line 14, following the phrase "PNA5," please insert --SEQ ID NO: 9--.

On page 21, line 15, following the phrase "PNA6," please insert --SEQ ID NO: 10--.

In the claims:

Please cancel claims 1-8 without prejudice to their presentation in a continuing patent application. Also, please cancel claims 11, 20 and 21, replace them with claims 23-24, respectively, and rewrite claims 12-14 as indicated below:

In the claim 12, line 1, please delete "claim 11" and insert therefor --claim 22--.

3
13. (amended) The nucleic acid mimic according to claim [11] *22* wherein
said sterically bulky substituent has 3 or more non-hydrogen atoms and is -R', -OR', -SR',
-N(R')₂, -C(R')₃, -C(= X)(R'), -C(= X) (-Y-R') or S(= O)₁₋₂(-Y-R') wherein:

X is O, S or NH;

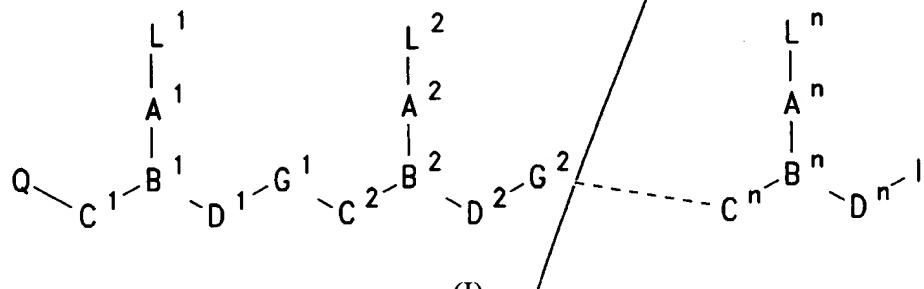
Y is O, S or NH; and

R' [comprises at least 3 atoms and] is H, C₁-C₅₀-alkyl, C₂-C₅₀-alkenyl, C₂-C₅₀-alkynyl, C₇-C₅₀-alkyl-aryl, C₆-C₅₀-aryl, C₁₀-C₅₀-naphthyl, C₁₂-C₅₀-biphenyl, C₇-C₅₀-aryl-alkyl,

pyridyl, imidazolyl, pyrimidinyl, pyridazinyl, quinolyl, acridinyl, pyrrolyl, furanyl, thieryl, isoxazolyl, oxazolyl, thiazolyl and biotinyl, wherein R' can be substituted one or more times by -NO, -NO₂, -SO₃⁻, -CN, -OH, -NH₂, -SH, -PO₃²⁻, -COOH, -F, -Cl, -Br and -I.

In the claim 14, line 1, please delete "claim 11" and insert therefor --claim 22--.

—22. The nucleic acid mimic according to claim 1 having formula (I):



wherein:

n is at least 2,

each of L^1 - L^n is independently selected from the group consisting of hydrogen, hydroxy, (C_1 - C_4) alkanoyl, naturally occurring nucleobases, non-naturally occurring nucleobases, aromatic moieties, DNA intercalators, nucleobase-binding groups, heterocyclic moieties, and reporter ligands, at least one of L^1 - L^n being said base substituted with at least one sterically bulky substituent;

each of C¹-Cⁿ is (CR⁶R⁷)_y, where R⁶ is hydrogen and R⁷ is selected from the group consisting of the side chains of naturally occurring alpha amino acids, or R⁶ and R⁷ are

each of p and q is zero or an integer from 1 to 5;

each of r and s is zero or an integer from 1 to 5;

each R^1 and R^2 is independently selected from the group consisting of hydrogen,

(C_1-C_4) alkyl which may be hydroxy- or alkoxy- or alkylthio-substituted, hydroxy, alkoxy, alkylthio, amino and halogen;

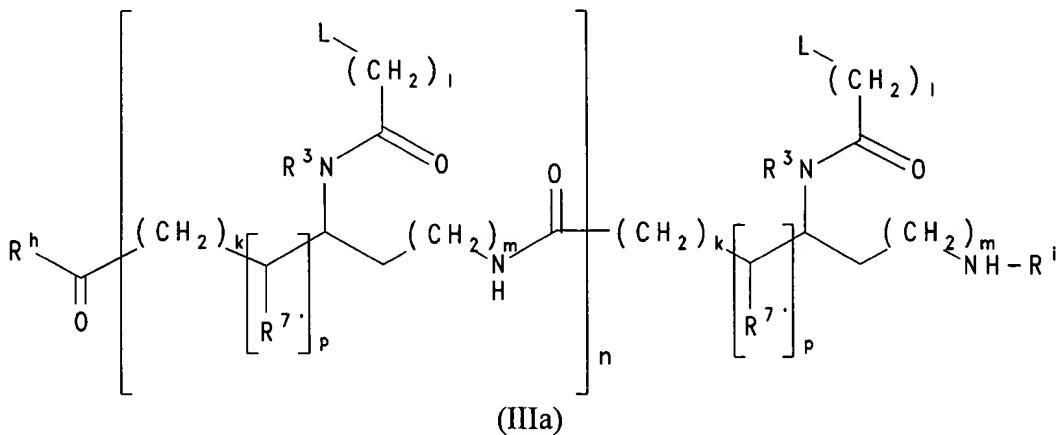
each of G^1-G^{n-1} is $-NR^3CO-$, $-NR^3CS-$, $-NR^3SO-$ or $-NR^3SO_2-$, in either orientation, where R^3 is a sterically bulky substituent containing 3 or more non-hydrogen atoms;

Q is $-CO_2H$, $-CONR'R''$, $-SO_3H$ or $-SO_2NR'R''$ or an activated derivative of $-CO_2H$ or $-SO_3H$; and

I is $-NHR'''R''''$ or $-NR'''C(O)R''''$, where R' , R'' , R''' and R'''' are independently selected from the group consisting of hydrogen, alkyl, amino protecting groups, reporter ligands, intercalators, chelators, peptides, proteins, carbohydrates, lipids, steroids, oligonucleotides and soluble and non-soluble polymers.

10

23. The nucleic acid mimic according to claim 22 having formula (IIIa):



wherein:

each L is independently selected from the group consisting of hydrogen, phenyl, heterocyclic base moieties, including those substituted with a sterically bulky group or groups, naturally occurring nucleobases, and non-naturally occurring nucleobases, at least one L being said base substituted with at least one sterically bulky substituent;

*C 3
C 4
C 5
C 6*
R³ and R⁴ independently are hydrogen, a conjugate, (C₁-C₄)alkyl, hydroxy- or alkoxy- or alkylthio-substituted (C₁-C₄)alkyl, hydroxy, alkoxy, alkylthio or amino;

each R⁷ is independently selected from the group consisting of hydrogen and the side chains of naturally occurring alpha amino acids;

n is an integer from 1 to 60;

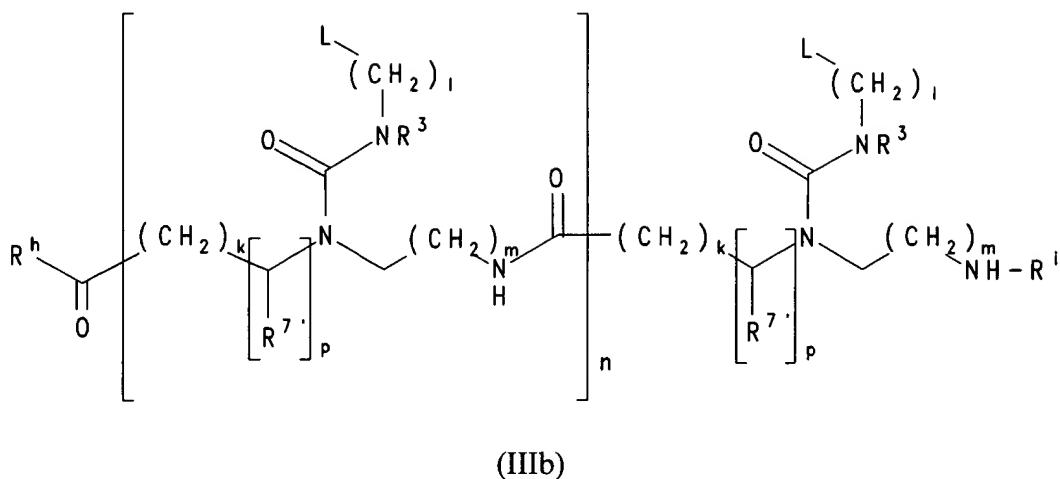
each of k, l, and m is independently zero or an integer from 1 to 5;

p is zero or 1;

R^h is OH, NH₂ or -NHLysNH₂; and

Rⁱ is H or COCH₃.

H
24. *||* The nucleic acid mimic according to claim 22 having formula (IIIb):
25



wherein:

each L is independently selected from the group consisting of hydrogen, phenyl, heterocyclic base moieties, including those substituted with a sterically bulky group or groups, naturally occurring nucleobases, and non-naturally occurring nucleobases, at least one L being said base substituted with at least one sterically bulky substituent;

R^3 and R^4 independently are hydrogen, a conjugate, (C_1-C_4) alkyl, hydroxy- or alkoxy- or alkylthio-substituted (C_1-C_4) alkyl, hydroxy, alkoxy, alkylthio or amino;

each R^7 is independently selected from the group consisting of hydrogen and the side chains of naturally occurring alpha amino acids;

n is an integer from 1 to 60;

each of k , l , and m is independently zero or an integer from 1 to 5;

p is zero or 1;

R^h is OH , NH_2 or $-NHLysNH_2$; and

R^i is H or $COCH_3$ --